

Amendment and Response
Applicants: Steven Neville Chatfield et al.
Serial Number: 09/591,447

Attorney Docket: KCO1003US

IN THE CLAIMS:

Please cancel claims 10, 25, and 34 and amend the remaining claims as follows:

1. (currently amended) A composition which invokes an immune response to a pathogenic bacterium comprising a pathogenic bacterium attenuated by a non-reverting, defined mutation in the *surA* gene and a pharmaceutically acceptable carrier or diluent.

Claims 2 to 6 (canceled).

7. (currently amended) The composition according to claim 1 wherein the bacterium is further attenuated by a non-reverting, defined mutation in a second gene.

8. (previously presented) The composition according to claim 7 wherein the second gene is an *aro* gene, a *pur* gene, the *htrA* gene, the *ompR* gene, the *galE* gene, the *cya* gene, the *crp* gene or the *phoP* gene.

9. (previously presented) The composition according to claim 8 wherein the *aro* gene is *aroA*, *aroC*, *aroD* or *aroE*.

10. (canceled)

11. (previously presented) The composition according to claim 1 wherein the bacterium has no uncharacterised mutations in the genome thereof.

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12. (previously presented) The composition according to claim 1
wherein the bacterium is a bacterium that infects via the oral route.

13. (previously presented) The composition according to claim 1
wherein the bacterium is from the genera *Salmonella*, *Escherichia*, *Vibrio*,
Haemophilus, *Neisseria*, *Yersinia*, *Bordetella* or *Brucella*.

14. (previously presented) The composition according to claim 13
wherein the bacterium is *Salmonella typhimurium*, *Salmonella typhi*, *Salmonella enteritidis*, *Salmonella choleraesuis*, *Salmonella dublin*, *Escherichia coli*,
Haemophilus influenzae, *Neisseria gonorrhoeae*, *Yersinia enterocolitica*,
Bordetella pertussis or *Brucella abortus*.

15. (previously presented) The composition according to claim 1
wherein the bacterium is genetically engineered to express an antigen from another
organism.

16. (previously presented) The composition according to claim 15
wherein the antigen is fragment C of tetanus toxin.

17. (previously presented) The composition according to claim 15
wherein expression of the antigen is driven by the *nirB* promoter or the *htrA*
promoter.

Claims 18 and 19 (canceled).

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20. (currently amended) A method of invoking an immune response in a host to a pathogenic bacterium, which method comprises administering to the host a pathogenic bacterium attenuated by a non-reverting, defined mutation in the *surA* gene.

Claims 21 to 26 (canceled).

27. (previously presented) The composition according to claim 16 wherein expression of the antigen is driven by the *nirB* promoter or the *htrA* promoter.

Claims 28 to 30 (canceled).

31. (currently amended) The method according to claim 20 wherein the bacterium is further attenuated by a non-reverting, defined mutation in a second gene.

32. (previously presented) The method according to claim 31 wherein the second gene is an *aro* gene, a *pur* gene, the *htrA* gene, the *ompR* gene, the *galE* gene, the *cya* gene, the *crp* gene or the *phoP* gene.

33. (previously presented) The method according to claim 32 wherein the *aro* gene is *aroA*, *aroC*, *aroD* or *aroE*.

34. (canceled)

35. (previously presented) The method according to claim 20 wherein the bacterium has n uncharacterised mutations in the genome thereof.

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36. (previously presented) The method according to claim 20 wherein the bacterium is a bacterium that infects via the oral route.

37. (previously presented) The method according to claim 20 wherein the bacterium is from the genera *Salmonella*, *Escherichia*, *Vibrio*, *Haemophilus*, *Neisseria*, *Yersinia*, *Bordetella* or *Brucella*.

38. (previously presented) The method according to claim 37 wherein the bacterium is *Salmonella typhimurium*, *Salmonella typhi*, *Salmonella enteritidis*, *Salmonella choleraesuis*, *Salmonella dublin*, *Escherichia coli*, *Haemophilus influenzae*, *Neisseria gonorrhoeae*, *Yersinia enterocolitica*, *Bordetella pertussis* or *Brucella abortus*.

39. (previously presented) The method according to claim 20 wherein the bacterium is genetically engineered to express an antigen from another organism.

40. (previously presented) The method according to claim 39 wherein the antigen is fragment C of tetanus toxin.

41. (previously presented) The method according to claim 39 wherein expression of the antigen is driven by the *nirB* promoter or the *htrA* promoter.

42. (new) The composition according to claim 1 wherein the mutation is a deletion mutation.

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43. (new) The composition according to claim 1 wherein the mutation is an insertion mutation.

44. (new) The method according to claim 20 wherein the mutation is a deletion mutation.

45. (new) The method according to claim 20 wherein the mutation is an insertion mutation.